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Owner: VEGLA Vereinigte Glaswerke GmbH, 52066 Aachen, DE

Title: Decorative laminated glass

## Decorative laminated glass

### Description

The innovation concerns a decorative laminated glass from at least two glass disks and a colored picture or a colored decoration of organic dyes containing intermediate layer, which consists for its part of two connected polyvinylbutyral foils, from which the one PVB foil is connected with other PVB foil with the side where the picture or the decoration is provided.

A decorative laminated glass disk of this kind is well-known from the DE-2837768-A1, whereby with this well-known laminated glass disk the decoration can consist of organic or inorganic dyes. The usual polyvinylbutyral foils exhibit a thickness of less than 0.4 mm. If the colored picture or decoration under these conditions consists of organic colors, colors under the effect of the UV rays in the course of the time bleach out. Decorative laminated glass disks of this kind are thus not light-resistant.

This innovation's task is to make a decorative laminated glass available of the structure initially specified which exhibits a high light resistance also when using organic dyes.

The laminated glass in accordance with the innovation is characterized by the fact that those that exhibit the picture or decoration from organic colors between closing polyvinylbutyral foils have a increased UV absorption.

Since also the usual polyvinyl butyral foils show a certain UV absorption, the desired purpose can be achieved by the fact that PVB foils of usual composition are used, however with a larger thickness, so that thereby a sufficient light protection of organic colors is ensured. It was shown that this condition is fulfilled, if PVB foils of usual composition, however with a thickness of at least 0.76 mm, to be used. Of course also thinner foils from PVB or from other thermoplastic materials can be used, if the UV absorption of these materials, if necessary due to suitable additives, is accordingly increased.

The colored or decorative pictures can be applied in principle in all well-known order methods directly on one of the two PVB foils, for example by hand, in the Airbrush procedure or after a compression printing, for example the silk-screen printing.

One innovation in accordance with formed laminated glass disk can be combined also with one or more further layer, for the example with one or more colored foils, whereby the decorative and formative possibilities are extended.

On this basis the design, which represents a cross-section by a preferential execution form of the invention, the subject of the innovation is more closely described.

The laminated glass disk covers two glass disks 1, 2 from colorless floating glass of in each case 4 mm thickness. The two floating glass disks 1, 2 are connected by the thermoplastic intermediate layer 3, whereby the compound takes place after one of the well-known connecting procedures with application of heat and pressure. The intermediate layer 3 sits down together from two foils 4, 5 of polyvinyl butyral. Both foils 4 and 5 have a thickness of 0.76 mm. Before the connecting process the two foils 4 and 5 are superimposed. They fuse with the connecting process into a connected layer.

Before the two foils 4 and 5 are folded up, on that surface of the foil 5, which comes with the foil 4 into contact, a single-color or multi color decoration from an organic acrylic color 6 is applied in any well-known procedure. Color 6 in such a concentration is applied that transparency remains

resulting by the dye film. With the later connecting process with use of heat and pressure color 6 penetrates superficially into the PVB foils 4 and 5. Despite the available dye film the two PVB foils 4 and 5 fuse completely with one another in the connecting process. The finished laminated glass disk exhibits also with the illustration 6 colored in it contained for laminated glass admitted safety glass characteristics. These usual tests were run on pattern disks with positive result. Even during longer intensive UV irradiation colors do not show yellowing features.

#### **Protection claims**

1. Decorative laminated glass from at least two glass disks and a colored picture or a colored decoration from organic dyes containing intermediate layer, which consists for its part of two connected polyvinyl butyral foils, by which the one PVB foil is provided with another PVB foil connected on the side with the picture or the decoration, characterized by the fact that those exhibit the picture or decoration (6) from organic colors between including PVB foils (4,5) present an increased UV absorption.
2. Decorative laminated glass after claim 1, characterized by the fact that the PVB foils (4,5) are provided with UV rays an absorbing additive.
3. Decorative laminated glass after claim 1, characterized by the fact that the PVB foils are commercial foils of at least 0.76 mm of thickness.
4. Decorative laminated glass after one of the claims 1 to 3, characterized by the fact that the colored picture or decoration (6) consists of colors on acryl number base.

